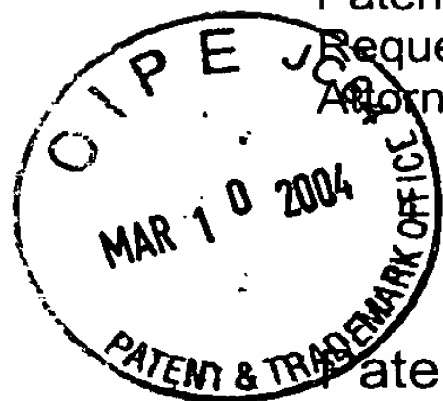


Patent No. 6,664,664

Request for Cert. of Correction dated 03-08-04

Attorney Docket No. 0005-002007



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No. : 6,664,664 *B2*
Inventors : Stephen J. Botos et al.
Issued : December 16, 2003
Title : Printed Circuit Linear Motor
Examiner : Iraj A. Mohandesi

CofC
P
Certificate
MAR 16 2004
of Correction

REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ATTENTION: Decision and Certificate of Correction
Branch of the Patent Issue Division

Sir:

In accordance with 35 U.S.C. §255, we attach hereto Form PTO/SB/44 and proof of errors and request that a Certificate of Correction be issued in the above-identified patent. The following errors appear in the patent as printed:

Column 10 Line 25, in Claim 4, "the plurality heat" should read --the plurality of heat--.

(Application Page 15, Line 2, in Claim 4)

Column 12 Line 22, in Claim 21, "from each" should read --from each other--.
(See Amendment dated 1/16/03, page 3, refer to Claim 21 Line 3)

The above errors are obvious typographical errors made by Applicants.
A check for \$100.00 is attached to cover the fee for correction of Applicants' mistakes.

Respectfully submitted,

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By 

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17 MAR 2004

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 6,664,664 B2
DATED : December 16, 2003
INVENTOR(S) : Stephen J. Botos et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 10

Line 25, in Claim 4, "the plurality heat" should read --the plurality of heat--.

Column 12

Line 22, in Claim 21, "from each" should read --from each other--.

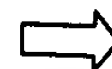
MAILING ADDRESS OF SENDER:

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Pittsburgh, PA 15219-1818

PATENT NO. 6,664,664

No. of additional copies



This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

17 MAR 2004

each layer includes a plurality of heat transfer vias therethrough; and
the plurality heat transfer vias of each layer is positioned in registration with the
corresponding plurality of heat transfer vias in the other layers.

5. The linear motor as set forth in claim 1, wherein the windings of each coil
positioned in registration are electrically connected via a conductor received in at least one hole
and/or via formed in each layer.

6. The linear motor as set forth in claim 5, wherein:
each layer includes a plurality of heat transfer vias therethrough; and
the plurality of heat transfer vias of each layer is aligned coaxially with the
corresponding plurality of heat transfer vias in the other layer.

7. The linear motor as set forth in claim 1, further including a plurality of
spacers positioned between two or more adjacent layer^s for maintaining the two or more adjacent
layers in spaced parallel relation with a gap therebetween.

8. The linear motor as set forth in claim 1, wherein:
each layer is rigid or flexible; and
the magnet assembly includes at least one magnet coupled to the magnet track.

9. The linear motor as set forth in claim 1, wherein the plurality of side-by-
side electrically conductive coils includes an integer multiple of N coils, with every Nth coil
electrically connected together.

10. The linear motor as set forth in claim 9, wherein selectively energizing
adjacent conductive coils with different phases of an N phase electrical source causes the
armature to move relative to the magnet assembly.

11. A linear motor comprising a linear armature having a plurality of layers,
each layer having a plurality of electrically conductive windings formed thereon in side-by-side
relation on one surface thereof, the plurality of layers laminated together with the plurality of
electrically conductive windings of each layer positioned in registration, wherein each electrically
{W0038177.1}

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 2834

In re application of

PRINTED CIRCUIT LINEAR
MOTOR

Stephen J. BOTOS et al.

Serial No.: 09/877,644

Filed: June 8, 2001

Examiner: Iraj A. Mohandesi

Pittsburgh, Pennsylvania
January 16, 2003

AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the Office Action dated September 16, 2002, Applicants submit the following amendments and remarks, and the accompanying Petition For A One Month Extension Of Time.

IN THE CLAIMS:

Please amend claims 1, 7, 11 and 18 as follows. Pursuant to 37 C.F.R. §1.121, the following are clean copies of the amended claims. Marked-up copies of the amended claims appear on separate sheets.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, Washington, D.C. 20231 on January 16, 2003.

Deborah L. Medves
(Name of Person Mailing Paper)

Deborah L. Medves 01/16/03
Signature Date

electrically connected so that in response to an electrical current flowing therethrough each winding produces a magnetic field having the same polarity.

Please insert the following new claims:

(21.) (New) A linear motor comprising a linear armature having a plurality of layers, each layer having at least one electrically conductive winding formed thereon, with at least two of said layers separated from each in spaced parallel relation.

(22.) (New) The linear motor of claim 21, further including spacing means positioned between said at least two layers for maintaining said at least two layers in spaced parallel relation.

REMARKS

In this Amendment, claims 1, 7, 11 and 18 have been amended and new claims 21 and 22 have been added to claim the invention to the extent the Applicants are entitled. Claims 1-22 are pending in the application.

Claims 1-20 stand rejected under 35 U.S.C. §103(a) for obviousness from the teachings of United States Patent No. 4,767,954 to Phillips in view of United States Patent No. 4,962,329 to Fujita et al.

In the Office Action, the Examiner admits that the Phillips patent does not teach certain features of the present invention. However, the Examiner asserts that the disclosure of the Fujita et al. patent teaches and suggests the features of the present invention not disclosed in the Phillips patent. Reconsideration is requested.

The Fujita et al. patent discloses a "thin pliable single insulating base material 12" (Fujita et al. patent column 4, lines 18 and 19), having six sets of unit coil groups 16 formed on a front side of insulating base material 12 and a like number of sets of unit coil groups formed on the back side of insulating base material 12 in registration with the unit coil groups on the front side of insulating base material 12. The coils of each unit coil group in registration on opposite sides of insulating base material 12 are connected in series so that the same current flows through coils 14₁-14₈ and 18₁-18₈.

In use, the single insulating base material 12 and unit coil groups 16 are wound into a cylindrical shape with at least one section of single insulating base material 12 and unit coil